





Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment						
	<table><tr><td>Health Hazard</td><td>3</td></tr><tr><td>Fire Hazard</td><td>0</td></tr><tr><td>Reactivity</td><td>0</td></tr></table>	Health Hazard	3	Fire Hazard	0	Reactivity	0	<div></div> <div>See Section 15.</div>
Health Hazard	3							
Fire Hazard	0							
Reactivity	0							

Section 1. Chemical Product and Company Identification			Page Number: 1	
Common Name/ Trade Name		Potassium Dichromate TS	Catalog Number(s).	P-226
Manufacturer		SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	CAS#	Mixture.
Commercial Name(s)		Not available.	RTECS	Not applicable.
Synonym		Not available.	TSCA	TSCA 8(b) inventory: Water; Potassium dichromate
Chemical Name		Not applicable.	CI#	Not available.
Chemical Family		Not available.	<u>IN CASE OF EMERGENCY</u> <u>CHEMTREC (24hr) 800-424-9300</u> CALL (310) 516-8000	
Chemical Formula		Not applicable.		
Supplier		SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248		

Section 2. Composition and Information on Ingredients					
		Exposure Limits			
Name	CAS #	TWA (mg/m ³)	STEL (mg/m ³)	CEIL (mg/m ³)	% by Weight
1) Water	7732-18-5				92.5
2) Potassium dichromate	7778-50-9	0.05		0.1	7.5
Toxicological Data on Ingredients		Potassium dichromate: ORAL (LD50): Acute: 25 mg/kg [Rat]. 190 mg/kg [Mouse]. DERMAL (LD50): Acute: 14 mg/kg [Rabbit].			

Section 3. Hazards Identification	
Potential Acute Health Effects	Very hazardous in case of skin contact (permeator), of ingestion. Hazardous in case of skin contact (irritant), of eye contact (irritant). Slightly hazardous in case of inhalation. Severe over-exposure can result in death.
Potential Chronic Health Effects	Hazardous in case of skin contact (sensitizer). CARCINOGENIC EFFECTS: Classified A1 (Confirmed for human.) by ACGIH [Potassium dichromate]. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. [Potassium dichromate]. Mutagenic for bacteria and/or yeast. [Potassium dichromate]. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to blood, kidneys, lungs, liver, upper respiratory tract, skin, eyes. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

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Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.
Skin Contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Serious Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Serious Inhalation	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	Non-flammable.
Auto-Ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not available.
Fire Hazards in Presence of Various Substances	Not applicable.
Explosion Hazards in Presence of Various Substances	Non-explosive in presence of open flames and sparks, of shocks.
Fire Fighting Media and Instructions	Not applicable.
Special Remarks on Fire Hazards	Not available.
Special Remarks on Explosion Hazards	Reacts explosively with hydrazine, and anhydrous hydroxylamine. (Potassium dichromate)

Section 6. Accidental Release Measures

Small Spill	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of sodium carbonate.
Large Spill	Poisonous liquid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of sodium carbonate. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7. Handling and Storage

Precautions	Keep locked up.. Keep container dry. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.
Personal Protection	Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	Potassium dichromate CEIL: 0.1 (mg/m ³) from OSHA (PEL) [United States] TWA: 0.05 (mg/m ³) from ACGIH (TLV) [United States] Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance	Liquid.	Odor	Odorless.
Molecular Weight	Not applicable.	Taste	Not available.
pH (1% soln/water)	Acidic.	Color	Clear Orange.
Boiling Point	The lowest known value is 100°C (212°F) (Water).		
Melting Point	Not available.		
Critical Temperature	Not available.		
Specific Gravity	Weighted average: 1.05 (Water = 1)		
Vapor Pressure	The highest known value is 2.3 kPa (@ 20°C) (Water).		
Vapor Density	The highest known value is 0.62 (Air = 1) (Water).		
Volatility	Not available.		
Odor Threshold	Not available.		
Water/Oil Dist. Coeff.	Not available.		
Ionicity (in Water)	Not available.		
Dispersion Properties	See solubility in water.		
Solubility	Easily soluble in cold water, hot water.		

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Incompatible materials
Incompatibility with various substances	Slightly reactive to reactive with reducing agents, combustible materials, organic materials, metals, acids, alkalis.
Corrosivity	Non-corrosive in presence of glass.
Special Remarks on Reactivity	Reacts violently or ignites with ethylene glycol above 100 deg. C Other Incompatibles: combustible, organic, or other readily oxidizable materials such as paper, wood, sulfur, aluminum, iron, tungsten, sulfuric acid + acetone, born + silicon, glycol, sulfur, plastics, hydrazine, hydroxylamine. (Potassium dichromate)
Special Remarks on Corrosivity	Not available.
Polymerization	Will not occur.

Section 11. Toxicological Information

Routes of Entry	Absorbed through skin. Dermal contact. Eye contact.
Toxicity to Animals	Acute oral toxicity (LD50): 333 mg/kg (Rat) (Calculated value for the mixture). Acute dermal toxicity (LD50): 187 mg/kg (Rabbit) (Calculated value for the mixture).
Chronic Effects on Humans	CARCINOGENIC EFFECTS: Classified A1 (Confirmed for human.) by ACGIH [Potassium dichromate]. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. [Potassium dichromate]. Mutagenic for bacteria and/or yeast. [Potassium dichromate]. Contains material which may cause damage to the following organs: blood, kidneys, lungs, liver, upper respiratory tract, skin, eyes.
Other Toxic Effects on Humans	Very hazardous in case of skin contact (permeator), of ingestion. Hazardous in case of skin contact (irritant), eye contact (irritant). Slightly hazardous in case of inhalation.
Special Remarks on Toxicity to Animals	Lowest Published Lethal Dose: LDL [Man] - Route: Oral; Dose: 143 mg/kg LDL [Child] - Route: Oral; Dose 26 mg/kg (Potassium dichromate)
Special Remarks on Chronic Effects on Humans	Passes through the placental barrier in animal. May cause adverse reproductive effects and birth defects (teratogenic). May affect genetic material (mutagenic) (Potassium dichromate)
Special Remarks on other Toxic Effects on Humans	Acute Potential Health Effects: Skin: It causes skin irritation and may cause skin burns. It can be absorbed by the skin and cause systemic effects. It is toxic if absorbed through the skin..Deep ulceration of the skin of the hands, resulting from occupational exposure can penetrate as far as the bone in severe cases. Eyes: Causes eye irritation and may cause eye burns. It may cause severe damage with possible loss of vision, transient corneal bulging, residual irregular astigmatism, and anesthesia of the area after bulging resolves. Inhalation: Causes respiratory tract irritation. Inhalation of dust or mist can also cause irritation of the nose and eyes. Symptoms may include sneezing, rhinorrhea, throat erythema, nasal septum lesions, or perforation with with bleeding, discharge, or crusting Ingestion: Harmful if swallowed. When ingested in small amounts, it can cause burns of the esophagus, with possible stricture formation and perforation of the stomach. Symptoms may include abdominal and esophageal pain, nausea, vomiting, hypermotility, diarrhea, gastrointestinal tract irritation and bleeding, respiratory distress, cyanosis, coma, and death. It may also affect the cardiovascular system (cardiovascular shock, peripheral vascular collapse, urinary system (kidney damage - nephritis with glycosuria, acute tubular necrosis, renal failure), liver (elevated liver enzyme levels, hepatitis, hepatic failure), behavior/central nervous system/nervous system (somnolence, ataxia, vertigo, muscle cramps). It may also affect the blood and cause anemia, methemoglobinemia (characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis with bluish skin, rapid heart rate and chocolate-brown colored blood), thrombocytopenia. Chronic Potential Health Effects: Skin: Repeated or prolonged skin contact can produce eczematous allergic contact dermatitis with deep ulcers that do not heal.

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Inhalation: Repeated or prolonged inhalation can cause chronic rhinitis, coughing, dyspnea, wheezing, substernal pain, asthma, perforation of the nasal septum, and mucous membrane injury.

Ingestion: Hexavalent chromium has been reported to cause liver and kidney damage with chronic exposure. Chronic ingestion may also affect the blood and cause anemia, methemoglobinemia (characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis with bluish skin, rapid heart rate and chocolate-brown colored blood), thrombocytopenia, and may affect metabolism (weight loss).

Prolonged exposure may also cause erosion and discoloration of teeth. (Potassium dichromate)


Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The products of degradation are less toxic than the product itself.
Special Remarks on the Products of Biodegradation	<p>Dangerous to aquatic life in high concentrations.</p> <p>Chromium probably occurs as the insoluble (CrIII) oxide ($\text{Cr}_2\text{O}_3 \cdot n\text{H}_2\text{O}$) in the soil, as the organic matter in the soil is expected to reduce any soluble chromate to insoluble chromic oxide (Cr_2O_3). Chromium in the soil can be transported to the atmosphere by way of aerosol formation. Chromium is also transported from the soil through runoff and leaching of water.</p> <p>Most of the chromium in surface waters may be present in particulate form as sediment. Some of the particulate chromium would remain as suspended matter and ultimately be deposited in the sediments. Chromium present usually as (CrIII) in the soil and is characterized by its lack of mobility, except in cases where Cr(VI) is involved. Chromium (VI) of natural origin is rarely found. (Potassium dichromate)</p>

Section 13. Disposal Considerations

Waste Disposal	Waste must be disposed of in accordance with federal, state and local environmental control regulations.
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Section 14. Transport Information

DOT Classification	CLASS 6.1: Poisonous material.
Identification	: Toxic liquid, inorganic, n.o.s (Potassium dichromate) UNNA: 3287 PG: III
Special Provisions for Transport	Not available.
DOT (Pictograms)	

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations	<p>California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Potassium dichromate</p> <p>California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Potassium dichromate</p> <p>Connecticut hazardous material survey.: Potassium dichromate</p> <p>Illinois chemical safety act: Potassium dichromate</p> <p>New York release reporting list: Potassium dichromate</p> <p>Rhode Island RTK hazardous substances: Potassium dichromate</p> <p>Pennsylvania RTK: Potassium dichromate</p> <p>Massachusetts RTK: Potassium dichromate</p> <p>Massachusetts spill list: Potassium dichromate</p> <p>New Jersey: Potassium dichromate</p>
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New Jersey spill list: Potassium dichromate
 Louisiana spill reporting: Potassium dichromate
 California Director's List of Hazardous Substances: Potassium dichromate
 TSCA 8(b) inventory: Water; Potassium dichromate
 TSCA 6 final risk management: Potassium dichromate
 TSCA 8(a) IUR: Potassium dichromate
 SARA 313 toxic chemical notification and release reporting: Potassium dichromate 7.5%
 CERCLA: Hazardous substances.: Potassium dichromate: 10 lbs. (4.536 kg);

**California
 Proposition 65
 Warnings**

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Potassium dichromate
 California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.

Other Regulations

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications

WHMIS (Canada)

CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC).

DSCL (EEC)

R22- Harmful if swallowed.
 R24- Toxic in contact with skin.
 R36/37- Irritating to eyes and respiratory system.
 R43- May cause sensitization by skin contact.

S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.
 S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

HMIS (U.S.A.)

Health Hazard	3
Fire Hazard	0
Reactivity	0
Personal Protection	h

**National Fire Protection
 Association (U.S.A.)**

Health	3	0	0	Flammability
				Reactivity
				Specific hazard

**WHMIS (Canada)
 (Pictograms)**



**DSCL (Europe)
 (Pictograms)**



**TDG (Canada)
 (Pictograms)**



**ADR (Europe)
 (Pictograms)**



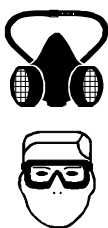
Protective Equipment



Gloves.



Lab coat.



Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Splash goggles.

Section 16. Other Information

MSDS Code P227S

References Not available.

Other Special Considerations Not available.

Validated by Sonia Owen on 5/16/2007.

Verified by Sonia Owen.

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CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.